

Summary Report for the Peconic River Alewife Spawning Run 2010 to 2016

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The Alewife (*Alosa pseudoharengus*) is found in a number of streams on Long Island, with major spawning runs found in the Peconic River, Alewife Creek, and the Carmen's River. This report provides a brief summary of the 2016 alewife sampling in the Peconic River and compares the results with previous years efforts.

The first evidence of alewives entering the Peconic River was on March 2, 2016 when two sets of alewife scales were found along the bank of Woodhull Dam. The first alewives were captured on March 9, 2016 by cast net. Alewives were caught on each subsequent visit until May 16, 2016, just over 10 weeks. This represents the earliest documentation of alewives entering the system and the second latest departure date.

The 2016 spawning run was disrupted by two major weather events during the Spring of 2016. The first was a sharp drop in water temperature that occurred in early April just as the spawning run was beginning to peak. This sharp drop in air and water temperature caused the alewives to drop back into the Bay. Once the weather warmed again the alewives returned and continued their spawning run. The second event was a major rain event in April that raised the water levels in Little River by nearly 6 inches for several days. This rain event occurred during the peak of spawning. Alewives were present with an undetermined impact on the spawning event.

The 2016 Peconic River spawning run appears to be above average with an estimate of 40,000 to 55,000 fish entering the system. The 2016 alewife spawning run was more protracted than previous spawning runs due to the highly variable weather pattern seen during the spawning period. In addition, the numbers of alewives seen at the USGS gauging station near Upper Mills dam was the highest observed in several years, indicating were spread out over the area between Grangabel Park and the USGS gauging station. Table 1 presents my first order estimation of the spawning run size. Three unsuccessful attempts have been made to deploy and operate a video camera system that would provide a more accurate and reliable count of spawning alewives. The system failed to provide a complete estimate of the spawning run due to excessive fouling of the camera and inconsistent power to the system.

Alewives were captured with a four foot diameter by $\frac{3}{4}$ inch stretched mesh cast net and on a few occasions with a crab net with a 14 inch ring bearing $2\frac{1}{4}$ inch

stretched mesh. The cast net was the most effective gear for capturing alewives. A total of 998 alewives were captured for the collection of biological data. Table 2 presents a summary of the data collected from 2010 to present. In addition, 179 scale samples were collected for age analysis.

In summary, these data provide positive proof that the Rock Ramp fish ladder at Grangabel Park is operating effectively allowing spawning alewives access to that portion of the Peconic River immediately upstream of the fish ladder (approximately 35 acres). A new fish ladder and American eel passage have been constructed at Edwards Avenue that will be waiting for the alewives and eels when passage efforts are completed on three other blockages along the main stem of the Peconic River. More importantly, the fish passage project at Woodhull dam is progressing with hopes of having the permits in hand by 2017. Once the permits are in hand a contractor can be solicited to complete the project that will allow alewives access to Wildwood Lake and the spawning habitat between Willdwood Lake and Woodhull dam (approximately 100 acres).

Table 1. Estimates of annual spawning alewife counts at the base of Woodhull Dam.

Year	Low	High	
2010	25000	40000	First Year
2011	20000	35000	Below Average
2012	50000	75000	Above Average
2013	60000	80000	Highest Average
2014	50000	75000	Above Average
2015	20000	35000	Below Average
2016	40000	55000	Near Average

Table 2. Alewife Size Distribution by year.

Year	Males Mean TL	Range	Number	Females Mean TL	Range	Number
2010	236.1 mm	235-300	356	273.2 mm	243-313	256
2011	260.5 mm	232-289	252	272.2 mm	234-298	158
2012	257.7 mm	224-305	654	277.2 mm	241-325	413
2013	268.8 mm	236-304	515	281.0 mm	256-318	320
2014	276.6 mm	216-307	580	289.0 mm	252-325	501
2015	275.3 mm	232-317	410	287.4 mm	246-324	306
2016	268.6 mm	227-320	556	283.2 mm	248-327	442